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HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

| EXAMINER | |
|---|---|
| THOMAS, MIA M | |

| ART UNIT | PAPER NUMBER |
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| 2624 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/527,706 | JORDAN ET AL. | |
| | Examiner | Art Unit | |
| | Mia M. Thomas | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *13-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11 March 2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

3. The abstract of the disclosure is objected to because it exceeds 150 words. Correction is required. See MPEP § 608.01(b).

4. The spacing of the lines of the specification is such as to make reading difficult. New application papers with lines 1½ or double spaced on good quality paper are required.

### *Response to Amendment*

5. This Office Action is made responsive to the remarks received on 11 March 2005. Claims 1-12 were cancelled. Claims 13-24 are now present in this application, with new claims

13-24 being added by the present preliminary amendment. The claims (13-24) are non-narrowing, amendments, made solely to place the claims in proper U.S. practice and not to overcome any prior art or for any other statutory considerations. Examiner enters this preliminary amendment for instant application 10/527,706 as of the date of this Office Action.

***Claim Objections - 37 CFR 1.75(d) (1)***

6. The following is a quotation of 37 CFR 1.75(d) (1):

> The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

7. Claims 13, 23 and 24 are objected to under 37 CFR 1.75(d) (1), as failing to conform to the invention as set forth in the remainder of the specification.

The preamble of Claim 13 is not clearly defined throughout the specification and when read in light of the specification, the terms and interpretation of claim preamble is unclear.

The specification does not show clear support of the terms “portable detector” as in claim 23 and the terms “two geographically remote locations” as in claim 24. Examiner will interpret the “portable detector” of claim 23 to be an input device such as a camera, a wireless keyboard, a wireless mouse, a track ball, or a touch screen. Examiner will also interpret “two geographically remote locations to encompass that the locations are not directly adjacent or tangentially located directly next to each other. These acquisition and processing mechanisms are connected to each other for example by a USB cord or another serial bus or interface devices that separates each element geographically.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charney et al. (WO 97/40619).

**Regarding Claim 13** (As best understood by the Examiner): Charney discloses generation and application method on a support of a digital spatial marking of X x Y points according to a resolution of d1x by d1y points per surface unit and intended to be read by a reading device with a resolution of d2x by d2y points per surface unit, taking into account that the ratio d1x/d2x and/or d1y/d2y is larger than 1 (Refer to page 5,lines 12-31, specifically, lines 19-20), this process comprising the following steps:

sub-sampling of the digital spatial marking in X according to a factor n(x) =d1x/d2x and in Y according to a factor n(y) =d1y/d2y (Refer to Figure 2, numeral 27; also refer to the abstract; "Preferably, the unique identifying code (27) is replicated multiple times (271-275) over the document using an error correcting code to assure that at least one replication will be clear of matter selected for printing by the software." For clarity, the Examiner is asserting that once the document has been sub-sampled (replicated multiple times), the digital marking (27) will be in accordance with a factor n(x) and n(y).),

erosion of the points intended to be applied so as to leave one point every n(x) points in X and one point every n(y) points in Y (Refer to page 5, lines 20-31, specifically, lines 23-31),

application of the spatial marking on the support (Refer to page 9, lines 12-15 and also refer to Figure 2. Specifically at page 5 lines 14-16).

Charney does not explicitly state the points are eroded over every n(x) and n(y) points, however by definition, the term erode (eroded or eroding) according to Merriam-Webster.com (online dictionary) states “erode” means to cause to deteriorate or disappear as if by eating or wearing away. Accordingly, for the claimed element of eroding the points intended to be applied so as to leave one point every n(x) points in X and one point every n(y) points in Y; at page 5, Charney discloses that other markings (for example, 27(2)) appears in the field of the printed text but between lines so that they are not obscured by the text. Others such as 27(3) and 27(4) are partially obscured by the matter selected by the program.” Therefore, the Examiner relies on this detailed explanation to replace the words obscure with erode, therefore, this claimed element is made obvious in view of this substitution of this known method for applying the same technique.

Therefore, it would have been obvious to one of ordinary skill in the art to apply the same technique of sub-sampling, erosion and application as disclosed by Charney to obtain the same predictable results of claim 1.

**Regarding Claim** 14: Charney discloses wherein the resolution of the reading device is identical in X and in Y that is to say d2x=d2y (Refer to page 9, lines 19-22; also refer to Figure 1, numeral 17 and 21).

For clarity, the Examiner is relying on the disclosure wherein Charney states that the unique identifying code pattern is based upon predetermined similarity of the multiple replications. A

similarity, that the skilled artisan could easily obtain is that the unique identifying code pattern is equivalent or of the same ratio wherein d2x=d2y, whereby x and y can be any real number such as those associated with the specification of this instant application. "These factors are in particular to create different resolution in two sizes, a similar effect can also be observed on a scanner." at page 7 (instant application).

Therefore, this claim would have been obvious because the user/operand can easily obtain the unique pattern in a predetermined manner in which to be applied to the aforementioned ratio which would yield predictable results to those skilled in the art.

**Regarding Claim** 15: Charney discloses wherein the resolution of the initial spatial marking is identical in X and in Y that is to say d1x=d1y (Refer to page 10, lines 4-6; also refer to page 4, lines 24-27).

For clarity, the Examiner is relying on the disclosure wherein Charney states that the unique identifying pattern code is the same. As made in a similar argument above, Charney can utilize a predetermined similarity, wherein the spatial marking is identical. This claim would have been obvious because the user/operand can easily obtain the unique pattern in a manner in which the resolution of this spatial marking would yield predictable results to those skilled in the art.

**Regarding Claim** 16: Charney discloses wherein the ratio of resolution in X (n(x)) and the ratio of resolution in Y (n(y)) is comprised between 2 and 5, 2 and 5 inclusive (Refer to page 6, lines 12-19).

**Regarding Claim** 17: Charney discloses wherein the support is constituted by a printing process ("Each copy of software is assigned a unique identifying code pattern which is printed on all documents produced with that software by a high resolution printer." at abstract).

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Charney et al. (WO 97/40619) in combination with Rhoads (US 6,345,104 B1).

**Regarding Claim** 18:

Charney discloses all the claimed elements as listed above.

Charney does not specifically disclose the support is constituted by an engraving process. However, Rhoads teaches wherein the support is constituted by an engraving process ("In an illustrative embodiment, the printing of the security document is achieved by intaglio printing. Intaglio is a well known printing process employing a metal plate into which the security document pattern is etched or engraved." at column 11, lines 36-44).

Charney and Rhoads are combinable because they are in the same field of copy detection for security documents. (see title and abstract of each invention).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to provide a support that is constituted by an engraving process.

The suggestion/motivation to combine these claimed elements would have been to make the copy detection system and application of this process more efficient and economically resourceful by adding additional claimed elements to the overall system of Charney. "When ink is applied to the plate (support), it fills in the etching recesses and grooves." (Rhoads). The

application of this engraving process makes the system of Charney more efficient and therefore more security documents can be analyzed rapidly and effectively since all the claimed elements can be housed in the same apparatus.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Rhoads with the disclosure of Charney to obtain the specified claimed elements of Claim 18.

11. Claim 19-24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Charney et al. (WO 97/40619) in combination with Gasper et al. (US 5,752,152) and further in view of Linnartz (US 7,000,113 B1).

**Regarding Claim** 19:

Charney discloses all the claimed elements as listed above. Charney does not specifically disclose the claimed elements of Claim 19, however,

Gasper teaches a method of recognition of a spatial marking applied according to the generation method of claim 13, wherein it includes the following steps:

digital acquisition of an image of the support (Refer to Figure 2, specifically, column 4, lines 45-57),

filtering on the image obtained to eliminate the parts not comprising the spatial marking ("...detecting means for detecting the presence of one or more microdots in said document..." at column 3, lines 26-27),

use of autocorrelation properties to compensate every affine transformation introduced by the acquisition ("The primary object of the present invention is to provide documents with copy

restriction that can be implemented without degrading the quality of the original.", further at column 3, lines 28-36),

compensation in translation of the spatial marking using an intercorrelation between the obtained spatial marking and the group of possible positions of the spatial marking defined by a key (Refer to column 5, lines 20-30),

and

Linnartz teaches decoding of the digital information by statistical correlation for each bit of information (Refer to Figure 1, numeral 13; further refer to column 5, line 62-column 6, line 9).

Charney, Gasper and Linnartz are combinable because they are in the same field of copy detection for security documents. (see title and abstract of each invention).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to combine prior art elements according to known methods to yield predictable results.

All the claimed elements were known in the prior art at the time of the invention and the skilled artisan could have combined the claimed elements as claimed by known methods with no change in their respective functions, and the combination of the claimed elements of Charney, Gasper and Linnartz would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Gasper, in view of Linnartz with the disclosure of Charney to obtain the specified claimed elements of Claim 19.

**Regarding Claim** 20: Linnartz teaches a detection method of a spatial marking according to claim 19 wherein the filtering stage is based on a compensation of a uniform initial color ("A possible method of embedding data is by choosing the properties or parameters of the predictive filter (FIG. 10, item 152 in document D5 listed above) in accordance with watermarking rules. For instance, a digital watermark "1" can be represented by choosing an even number of filter taps and a "0" is represented by an odd number of taps. In another implementation, the filter coefficients are quantized according to a similar rule." at column 9, line 41-column 10, line 11).

**Regarding Claim** 21: Linnartz teaches a detection method of a spatial marking according to claim 19 wherein the filtering stage is based on a prediction of the image of the initial support by a soundproofing filter (Refer to column 5, lines 46-61; specifically, "This requires both a marking method for the content (watermarking) and a method for marking the physical storage medium that can only be produced by a professional recorder or pressing machine.").

**Regarding Claim** 22: Gasper teaches digital acquisition of the image is carried out by a scanner (Refer to figure 2, numeral 22).

**Regarding Claim** 23: Charney discloses wherein the digital acquisition of the image is carried out using a portable detector (Refer to Figure 1, numeral 13-"Input Device"; further at page 4, lines 13-16).

**Regarding Claim** 24: Gasper teaches wherein the acquisition and processing of the spatial marking are carried out in two geographically remote locations (Refer to Figure 2, numerals 22 and 28 respectively).

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

| | | |
|---|---|---|
| US 2006/0136746 | US 7,286,684 B2 | US 7,113,615 B2 |
| US 6,549,638 B2 | US 6,343,138 B1 | US 5,490,218 |
| US 6,092,732 | US 6,853,736 B2 | US 7,266,216 B2 |

Solachidis et al. "Circularly Symmetric Watermark Embedding in 2-D DFT Domain" IEEE Transactions on Image Processing, Volume 10, No. 11, November 2001.

Tefas et al. "Robust Spatial Image Watermarking Using Progressive Detection" IEEE, pages 1973-1976.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mia M. Thomas whose telephone number is (571)270-1583. The examiner can normally be reached on Monday-Thursday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*/Mia M Thomas/*
Examiner, Art Unit 2624

/Vikkram Bali/

Supervisory Patent Examiner, Art Unit 2624